The Behavior Analyst 1994, 17, 35–42 No. 1 (Spring)

Taking Hermeneutics to Science: Prospects and Tactics Suggested by the Work of B. F. Skinner

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Skinner's contributions to the understanding of behavior are typically viewed as being in sufficiently tight alignment with traditional science to prevent their amenability to alternative discourses such as hermeneutics. However, it is possible to identify several concepts at work in radical behaviorism that might constitute its common ground with hermeneutics. The coextensiveness of individual and environment, the emphasis on contingency, and the interminableness of conversation promised by technology are among the concepts considered here, together with issues that are potentially problematic for the effort to find a common ground.

Key words: radical behaviorism, hermeneutics, philosophy, B. F. Skinner, contingency, Darwinism, antimentalism

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The aim here is in no way to "rescue" Skinner by showing him to be a crypto-hermeneuticist. Skinner has no need of rescue by me or by anyone else. His work stands quite ably by itself as a thoughtful, reasonably self-consistent, provocative, and occasionally eloquent corpus that defines radical behaviorism. What is intended here is an inquiry about those aspects of Skinner's thought that have resonance with the hermeneutical tradition, especially in its most recent, postmodern cast. There is no presumption that Skinner anticipated that cast or in any way directly influenced its course, or was, in turn, directly influenced by it. Instead, the question is whether there are possible sympathies between radical behaviorism and hermeneutics.

Critics have questioned whether Skinner can be considered a serious philosopher. The absence of formal training in philosophy and the fact of a passing rather than rigorously sustained treatment of philosophies (except his own) in his writings may prompt suspicion. Nor was his radical behaviorism explicitly articulated against canonical alternatives, such as rationalism, empiricism, romanticism, Hegelianism, Marxism, pragmatism, or structuralism, for example. Still, he made extensive comparative use of positivism, especially logical positivism, and of a loosely synthesized position he referred to as mentalism (see, e.g., Skinner, 1974). His most contrastive foil was perhaps methodological behaviorism, which both preceded his own behaviorism and, banefully, is its most commonly held surrogate. Skinner was not averse to public debates with professional philosophers, although his opponents were typically of the analytic school (e.g., Sigmund Koch and Brand Blanchard). Indeed, it may be fair to summarize his own philosophical familiarities and tastes as largely those of analytic philosophy. There is no record of Skinner discussing contemporary continental philosophy or hermeneutics specifically. Although this absence may be disappointing, it should not be surprising, because Skinner seemed most interested to articulate his position vis-à-vis the sciences and, therein, the relatively recently derived professional discipline that is psychology. My title has already implied a foreignness between these endeavors and postmodern philosophy.

HERMENEUTICS AND SCIENCE

In a recent review, John Searle (1990) surveyed the posturing that has occurred

This paper is a revision of an invited address to Division 1 of the American Psychological Association at its 99th annual convention in San Francisco, August 1991. I thank Richard N. Williams for the invitation. My thanks are also extended to anonymous and not-so-anonymous reviewers for many helpful suggestions.

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between canonist and revisionist critics of American postsecondary education. His analysis, like others before it and since, pointed to the radicalization first of the social sciences, then of the humanities, in the name of hermeneutics or its avatar, deconstructionism. Searle noted:

> One curious feature of the entire debate about what is "hegemonic," "patriarchal," or "exclusionary" is that it [the debate over the canon] is largely about the study of literature. No one seems to complain that the great ideas in physics, mathematics, chemistry, and biology, for example, also come in large part from dead white European males. Historians of science have been showing how talented women were discouraged throughout modern history from pursuing scientific careers. But I have not heard any complaints from physics departments that the ideas of Newton, Einstein, Rutherford, Bohr, Schrödinger, etc., were deficient because of the scientists' origins or gender. (p. 36)

Searle accounted for this curious resistance by first suggesting that the sciences use a language for the complexities of the human experience that is quite distinct from that used by the humanities. More importantly, Searle pointed to the assumed greater amenability of the humanities to politicization:

> . . . many members of the cultural left think that the primary function of teaching the humanities is political; they do not really believe that the humanities are valuable in their own right except as a means of achieving "social transformation." They (apparently) accept that in subjects like physics and mathematics there may be objective and socially independent criteria of excellence (though they do not say much about the sciences at all), but where the humanities are concerned they think that the criteria that matter are essentially political. (p. 36)

Searle did not elsewhere speculate on the reasons for this apparent immunity of the natural sciences to the influences that otherwise opened the door to postmodern thinking within the social sciences and the humanities. However, there are those who suggest that the immunity is not obdurate, that there are deconstructionist, including feminist, renderings of the history of the sciences that call into question any ultimacy—epistemological, political, or otherwise—they might arrogate (see, e.g., Harding, 1986, 1991; Longino, 1990; Lynch & Woolgar, 1990). When, at a recent conference, a question arose about the seeming immunity of the sciences to hermeneutics, Stanley Rosen answered that, in fact, they had already made their hermeneutic confession, as it were, implying that the circle had later closed to include the social sciences and the humanities as well. Rosen cited Einstein's theories of special and general relativity, the consequent quantum mechanical delvings of Heisenberg and Schrödinger, the theorems of Gödel, and Kuhn's deconstruction of the concept of scientific progress to make the point that the sciences had already taken what may be termed the "hermeneutic oath." By means of such an oath, they had foresworn the representative, the noncontingent, and the apodictic, including any claim to a final language that mediates perfectly between human experience and things as they really are (see Rosen, 1987, for this position adumbrated; see also Caputo, 1987).

These features of hermeneutics, although not unique to the movement, nevertheless stake out a definitional space. Hermeneutics is broadly interpretive but is more pointedly (and historically) the interpretation of the canonical. Such business is ironic, because what is canonical is presumed refractory to interpretation: What is final or ultimate can hardly be open to maybes. Hermeneutics is therefore liberalizing if not radicalizing in its preemption or suspension of finality. It admits no once-and-for-all take, preferring instead to keep ever open the possibility that new readings will emerge, new construals to resupply and validate anew the previously received or to wrench and vex it. (See Packer & Addison, 1989, for a discussion of what hermeneutical psychology might be like.)

Hermeneutical methodology, if such a term can be granted, is deliberately historicizing, contextualizing, perspectivizing, and contingency-philic. It is detective work that, to be consistent, must never be sure of itself. It seeks to lay open the received view so that conveniences of assumption, tidy editings, and inadvertencies are all exposed. It inquires into alternative histories, the biases of those who have managed the view, and the

transformations of meaning that can accompany even slight shifts of context. It admits that there is no reclaiming "what really happened" in any way that would be invariant across observers at the same point in time or for a single observer across multiple points.

For these reasons, sustaining the hermeneutical mode can be quite difficult, even painful. It is not easy to be always avoiding closure, to be perpetually inconclusive or tenaciously tentative. To believe that tomorrow may bring news thoroughly subversive of today's truth is hardly conducive to sound sleep. Instead, hermeneutics promotes restiveness, an unrelenting distrust of surety, particularly when it is dogmatic, all the time taking care not to be dogmatic itself.

Rosen's characterization of the scientific as already hermeneutical would likely come as news to most practicing scientists. Many might find the claim offensive to their personally held convictions about the nature of the enterprise in which they engage. The popular belief is no doubt in the inevitability of the discovery of the underlying reality of the universe—its immutable laws, harmonies, regularities—and in science's uniqueness among the disciplines in being up to that project. Only a few practicing scientists would likely be alert to (and fewer still endorse) Nietzsche's ironic critique of Enlightenment science as desperately avoiding metaphysics and emerging all the more metaphysical in the process.

SKINNER'S SCIENCE

The issue of the hermeneuticization of science is pertinent because many of Skinner's followers, as well as his critics, would place him firmly in the camp of the scientifically devout and therefore presumably untouched by hermeneutics. His regular invoking of the watchwords of measurement, control, and prediction, his affinity for technological solution, and his insistence on locating the experimental analysis of behavior (his brand of psychology) squarely within the compass of science, especially biological science, are well known. Daniel Robinson (1981) has gone so far as to conclude that Skinner's behaviorism may be the only legitimate contender for status as a philosophy for scientific psychology, dismissing cognitive and Gestalt psychology as stranded in mentalism and physiological psychology as a branch of zoology. Although Robinson despaired at this state of affairs, his conclusion underscores the popular identity between Skinnerian psychology and science.

Robinson's conclusion seems to be one more case of the popular and unfortunate misreading of Skinner's behaviorism as methodological behaviorism (see Day, 1983; Lamal, 1984). Skinner's adoption of the adjective *radical* may be seen as an effort to distance himself from the earlier and, as he saw it, flawed behaviorism of Watson, the behaviorism most people recognize (see Holland, 1992; Schneider & Morris, 1987; Skinner, 1974). To be sure, radical behaviorism takes serious interest in the environment—that part of human experience that is not behavior. But the boundary between environment and behavior is arbitrary and, in some ways, uneasy—a convenience, as is the parsing of the actions of the individual and the environment (including the social environment) into units known, respectively, as operants (and respondents) and stimuli, together with their attendant subcategories. These delineations are effected in the interest of perceiving regularities in the transactions between the individual and that individual's environment. Such perceiving, which Skinner termed the *functional analysis of behavior,* has at its heart the establishment of a grammar of transaction and the hope of more effective commerce between individual and environment.

For Skinner, individual and environment are coextensive; one is not logically prior to the other. Nor is the arrow of causality unidirectional. Like the individual, the environment is attributed as responsive, not merely receptive. The web of mutuality assures that no pride of place exists in the functional analysis, except as it is undertaken by individuals known as behavioral scientists or experimental

analysts, who are themselves in no way exempt from inclusion in the coparticipative scheme that Skinner urged. They are very much behavers enwebbed in their own environments.

The scheme renders problematic the notions of linear causality and selfhood. For Skinner, causality is bound up in the descriptive functions the analysis yields, in their report of the probabilistic articulations between the behaviors of individual and environment. The functions shade from the matter-of-fact elicitation of respondents to the largely inferred emissions that are operants. The system renders causality elusive and potentially indeterminate, although not undescribable—a recognition Skinner made in his first and still important book, *The Behavior of Organisms,* published in 1938:

> One kind of variable entering into the description of behavior is to be found among the external forces acting upon the organism. It is presumably not possible to show that behavior as a whole is a function of the stimulating environment as a whole. A relation between terms as complex as these does not easily submit to analysis and may perhaps never be demonstrated. (pp. 8–9)

> We have no reason to expect, either from theoretical considerations or from a survey of what has already been done experimentally, that any wholesale prediction of response or identification of stimulus will become possible through the discovery of principles that circumvent the routine of listing reflexes. Confronted with the sheer expansiveness of the topography of behavior, we must concede the impossibility of any wholesale prediction of stimulus or response that could be called exact. (p. 11)

> In general, the notion of a reflex is to be emptied of any connotation of the active "push" of the stimulus. The terms refer here to correlated entities, and to nothing more. (p. 21)

The inherent challenge of how to parse the behavior of the individual and that of the environment most effectually makes complex the ordinary concept of the individual as self-aware. Skinner's imposition of the skin as boundary accords with Western tradition but is not meant to cancel the intimacy, the codependency between individual and environment. According to Skinner (1974), "A person is not an originating agent; he [sic] is a locus, a point at which many genetic and environmental conditions come together in a joint effect" (p. 168). (Note that Skinner's reference to genetic conditions here is reducible to the effects of environments long passed—the environments that conditioned the species' history and its residual, one's genes.) His description of the individual is a refutation of the self as autonomous agent from which at least some of behavior takes its leave. Although one's private experience may be largely inaccessible to one's linguistic community, this is no warrant for autonomy. In Skinner's view (and this is perhaps where he veers most radically from methodological behaviorism), what goes on privately has no categorical separation from what goes on publicly, except by reference to the readiness of others' access. Private (subjective) experience is not made from some other kind of stuff (mind-stuff or qualia; see Dennett, 1991) that privileges it as autonomous, mediational, representational, or otherwise. Behavior is rendered seamless. Although it may be reasonable to talk of "behaving inside" and "behaving outside" the skin, the behaving is assumed to be capturable and discussible by means of functional analysis in either case (Holland, 1992).

Moreover, Skinner's fondness for the functional does not mean he would endow it with metaphysical status—as ultimately standing behind the appearances, as things as they really are. In reference to radical behaviorism, Willard Day (1969) explained that

> The practice of looking for functional relationships is obviously similar in certain respects to the effort to find relations between cause and effect. Yet in attempting to discover functional relationships the radical behaviorist does not accept any *a priori* logical assumption of a universe that is orderly in a mechanical sense upon which he feels he must base his scientific work. To be sure, he can easily be led, by appropriate verbal manipulation, to state that he "[assumes] that nature is orderly rather than capricious" (Skinner, 1950, p. 193). However, in doing so, nothing of the least *systematic* significance is asserted. (p. 318)

In summary, then, Skinner's creation of the experimental analysis of behavior and its companion philosophy, radical behaviorism, contains at least three elements that are resonant with contemporary hermeneutics (Caputo, 1987). The

first is an insistence on the essential bound-upness of individual and environment, that theirs is an inherent inseparability, an integrality that puts the lie to undirectional causes and effects. The second element is that self-identity premised on some private, autonomous preserve of mind, off limits to social construction, is self-deceptive and self-defeating. Finally, engagement in functional analysis is not tantamount to an aspiration to the ultimate story told in terms of universal and immutable laws. Instead, it is a much more modest, pragmatically or heuristically conceived effort to bring about more effective individuals, more effective environments (see Lamal, 1983).

SKINNER'S SELECTIONISM

These elements carry the unmistakable mark of Darwinism—the adaptationist, selectionist philosophy to which a wide range of systems of contemporary thought subscribe. Its inclusion here is not accidental or incidental. The concept of contingency central to Darwinism also plays centrally in Skinner's behaviorism (see Smith, 1990) and is a conspicuous favorite of hermeneuticists as well. Roughly, the concept suggests that our existence or experience, even our being, is derivative, historically prefigured, not in any teleological sense, but as a preexisting possibility in an array of possibilities. Its survival or selection occurred adventitiously, that is, through the confluence of then-present and prior conditions to favor that possibility rather than others. It is not that each was necessarily equally likely to become the case but that there was no preordaining design that necessitated the selection of one and only one possibility (see Gould, 1989).

Skinner was emphatic in his reliance on contingency. He pointed to the analogy (or better, the homology) between selection by consequences at the level of genes and the level of the behavior of the individual and the environment in which functional analysis operates. He went on to extend the analogy to cultures, suggesting that selection at that level is a further ratcheting of interdependency:

> If we regard a culture as a social environment that shapes the behavior of new members of a group, then we can say that a culture is simply an individual's way of producing other enculturated individuals. Variations occur in the individual, but it is the culture with its practices that survives. Many practices evolve and survive independently of particular cultures, just as eyes, ears, wings, and legs—the "practices" of species—evolve and survive independently of particular species. (Skinner, 1984, p. 718; see also Dawkins, 1982)

The influence or inertia of these cultural practices is predicated on propitiousness, on their somehow being in the right place at the right time (which is the Darwinian definition of fitness) and not on their approximation to some ultimate, preexisting scheme to which the flux is tending (see also Zeiler, 1992).

SUSTAINING THE CONVERSATION

Finally, one other element of Skinner's thought bears family resemblance to hermeneutics, namely, his stance toward technology. Skinner readily associated the cultures that are science and technology and recognized their immense implication in human affairs (Skinner, 1953; see Smith, 1992). He borrowed from both in his scholarly conduct, styling the experimental analysis of behavior as faithful to science and showing himself the inveterate tinkerer, the technologist, in the course of his laboratory pursuits. He also seemed aware of the double edge of technology, that, for all its bright promise to ameliorate human ills, it spawned new ones in the form of technocratic society, including the dark prospect of nuclear winter. He was alert to the mischief wrought by metaphors from technology, of the curse upon our language that is "technospeak."

Still, Skinner remained optimistic, in the manner of pragmatists like John Dewey and Richard Rorty. With all its forbiddingness, technology keeps alive the prospect of new conversations, new ways of treating each other, new ways of talking about the meaning of our behaving, including our talking. This hope is no

better demonstrated than by his most serious engagement in the utopian: his novel, *Walden Two* (1948/1976). The following sample of conversation between the book's two major characters is exemplary. Burris, the narrator, has insisted that Walden Two's founder, Frazier, is a genius. Frazier has demurred. Burris speaks first:

> "But what about Walden Two?"
>
> "That's an achievement, Burris, say what you will. It's the crowning achievement in the history of the human intellect to date, and make what you will of that! The splitting of the atom pales into insignificance beside it."
>
> "Then what about yourself? I'm afraid we're talking at cross-purposes."
>
> "But Walden Two didn't require genius! I have only one important characteristic, Burris: I'm stubborn. I've had only one idea in my life—a true *idee fixe*."
>
> "What idea is that?"
>
> "To put it as bluntly as possible—the idea of having my own way. 'Control' expresses it, I think. The control of human behavior, Burris. In my early experimental days it was a frenzied, selfish desire to dominate. I remember the rage I used to feel when a prediction went awry. I could have shouted at the subjects of my experiments, 'Behave, damn you! Behave as you ought!' Eventually I realized that the subjects were always right. They always behaved as they should have behaved. It was I who was wrong. I had made a bad prediction."
>
> Frazier laughed suddenly and at length.
>
> "And what a strange discovery for a would-be tyrant," he exclaimed at last, "that the only effective technique of control is unselfish!"
>
> He continued to laugh softly.
>
> "But you can scarcely complain," I said. "You've gained your control, I'm beginning to see that."
>
> He looked at me suspiciously for a moment, but then seemed to agree. He nodded slowly.
>
> "And you've had the fun of being a pioneer," I went on.
>
> "You've skimmed the cream. It's going to be all too easy and dull for those who follow."
>
> "That's nonsense, too, Burris," said Frazier, resuming some of his former violence. "Can you cite a single instance in the history of science to bear you out? When has a scientific discovery ever made things easy? It may clarify some *former* obscurity or simplify a *former* difficulty, but it always opens up problems which are more obscure and more difficult—and more interesting! Use your imagination, man! Look at what remains to be done!" (pp. 271–272)

In addition to its conversation-preserving effects, the engagement in technology that was Walden Two performed other utopian functions that, taken together, constitute the effectiveness referred to earlier. There was a discernible liberation from privation and pain, as well as from sexism, patriarchy, and militarism. There was an aesthetic cultivation of the increased leisure afforded by a commonly agreed-upon division of labor. The merits of social democracy were much in evidence. Skinner's dreaming was uncynical and congruent with the ideals of Western liberalism that populate contemporary hermeneutical thought, or at least the vein that is deliberately optimistic regarding the human prospect.

QUESTIONS AND A FURTHER SKETCH OF SYMPATHIES

Of many questions that remain, two are considered in conclusion. The first is: Why didn't Skinner pursue the sympathy with hermeneutics that is here suggested? That is, what reasons can we give for his failure to point up the correspondence between his work and contemporary hermeneutic philosophy, even to situate his work therein? The likeliest reason is that he was unaware of the possibility. The work of hermeneutic philosophers was largely inaccessible during the formative portion of his academic career and, even if it were eventually accessible, would not have been sufficiently compelling to motivate the considerable task of reframing his project once his career had matured. This is not to doubt Skinner's ability to appreciate the bold as well as nuanced play of ironies in hermeneutics, only to say that the cost of that appreciation may have been extravagant.

The second, related question is premised on the correctness of the assumptions made here about Skinner's philosophy. If it is asserted that Skinner furnished radical behaviorism with sufficient hooks by which to stake it in the hermeneutic camp, would he object to such treatment? Most of the money would likely be on "yes," and the bet would rest on the common perception of Skinner as orthodox scientist, unfriendly to the hermeneutical reading. Although there is little reason to question the resoluteness of his identification with science and his as-

piration to a science of human behavior, it is still the case that his version of science may not have been entirely orthodox (see Smith, 1986). In some sense, Skinner's may have been a gentler version, admitting of the impossibility of the final word and generally undogmatic about where the experimental analysis of behavior would lead, except that it should eventually produce more broadly humane conditions of living. The dogmatism was largely reserved for the antimentalism that was his preoccupation.

This is not to say that Skinner was scientistic, that he masqueraded as scientist, or that he was naive about the ability of science and technology to leverage a better world. The sincerity of his alignment with science is not questioned. However, it should be noted that his writings, particularly those that had no coauthor, were often addressed not to scientists per se but to an educated popular audience. True to his undergraduate moorings as an English major and aspiring writer, Skinner may have wished a reputation as an intellectual, if not literary, figure first and a scientist second. Whatever the aspiration, he was clearly beset by uncomprehending and unappreciative audiences. In an appraisal of the largely disappointing response to a canonical set of his writings published in 1984, Skinner speculated on the reasons for that response:

> Why have I not been more readily understood? Bad exposition on my part? All I can say is that I worked very hard on these papers, and I believe they are consistent one with another. The central position, however, is not traditional, and that may be the problem. To move from an inner determination of behavior to an environmental determination is a difficult step. (p. 719)

At the further risk of alienating two audiences—radical behaviorists and hermeneuticists—through simplism, a further suggestion is offered here, namely, that the common misreading of Skinner owes to the same affliction behind the usual aversion to hermeneutics: They both resist easy understanding. Moreover, the counterintuitions that fuel aversion to hermeneutic philosophy arise from an antimentalism that it shares virtually whole cloth with Skinner's radical behaviorism. To underscore the point, consider the following quotations from two authors who have thought about psychology in a postmodern, hermeneutical pose. The first is Kenneth Gergen (1989), a social constructionist:

> . . . to search for incorrigible truths about the mind is to misunderstand the way in which propositions about the mental world function within daily life. As we see, when it is said that "John remembered," "Nancy intended," "Harold believes," or "Rhoda feels sad," such statements do not rest on logical inferences from an observable realm of material to an interior realm of the mind. However, irrespective of their objective indeterminacy, such statements do play a major role in social life. . . . When Harold tells us he *believes* in strong democracy he is not thus reporting on the state of his mental condition; rather, he is informing us of what we can anticipate from him on subsequent occasions when, let us say, an astronomical defense budget is proposed to Congress. Upon the death of a family member, it is virtually incumbent upon the survivors to engage in a series of actions . . . appropriate to the occasion. This pattern will include reports of sadness, not because family members have examined their neurons to be certain that this is indeed what they are experiencing, but because such a report is a constituent of a pattern that, should it be lacking, would be for us in Western culture something "less than human." In effect, words about mental states . . . are not reflections on some other world; their significance is achieved in their very doing. In daily life, then, statements about mental conditions operate more like smiles and embraces than mirrors or maps. (pp. 256–257)

The second author is Richard Rorty (1991), a liberal pragmatist:

> If one treats it simply as a reminder, rather than as a metaphysics, then I think the following is a good way of bringing together the upshot of both the Quine-Putnam-Davidson tradition in analytic philosophy of language and the Heidegger-Derrida tradition of post-Nietzschean thought. Consider sentences as strings of marks and noises emitted by organisms, strings capable of being paired off with the strings we ourselves utter (in the way we call "translating"). Consider beliefs, desires, and intentions—sentential attitudes generally—as entities posited to help predict the behavior of these organisms. Now think of those organisms as gradually evolving as a result of producing longer and more complicated strings, strings which enable them to do things they had been unable to do with the aid of shorter and simpler strings. Now think of *us* as examples of such highly evolved organisms, of our highest hopes and deepest fears as made possible by, among other things, our ability to produce the peculiar strings we do. (p. 5)

The interest here is not to pursue a facile going back and forth between ex-

cerpts illustrative of the hermeneutical perspective and comparable passages in Skinner's writings. Although it would require time, it would not be a particularly difficult exercise. But it would be largely beside the point. To make Skinner into a hermeneuticist is not the point. Nor would it likely have had any interest for him. Rather, the point is to disable the fallacy that would have Skinner's work at unalterable odds with hermeneutics (see Day, 1988). Skinner pursued a science—the science of behavior—and a commensurate philosophy—radical behaviorism—that prove to be surprisingly open to hermeneutics. What has been explored here is a basis for their interplay, with the intent to furnish Skinner's work a place in the conversation, the thankfully interminable conversation that hermeneutics and Frazier enjoin.

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